

1. A method of making a treatment element for an exhaust emission control device, comprising:

applying a first catalyst composition along a first portion of a major axis of a single substrate;

applying a second catalyst composition along a second portion of the major axis of the single substrate to form a first catalyst zone and a second catalyst zone; and

calcining the substrate;

wherein the first catalyst zone and the second catalyst zone are different.

2. The method of Claim 1, wherein the first catalyst zone comprises a noble metal component and an alkaline earth metal component, and wherein the second catalyst zone comprises a noble metal component and an alkali element component.

3. The method of Claim 2, wherein the first catalyst zone comprises a noble metal component loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkaline earth metal component loading of about 180 grams per cubic foot to about 2904 grams per cubic foot, based on the total volume of the substrate.

4. The method of Claim 2, wherein the first catalyst zone comprises less than or equal to about 10 grams per cubic foot of an alkali element based on the total volume of the substrate.

5. The method of Claim 2, wherein the second catalyst zone comprises a noble metal component loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkali element component loading of about 70 grams per cubic foot to about 1104 grams per cubic foot, based on the total volume of the substrate.

6. The method of Claim 5, wherein the second catalyst composition further comprises an alkaline earth metal component at a loading of about 180 grams per cubic foot to about 2904 grams per cubic foot, based on the total volume of the substrate.

7. The method of Claim 1, wherein the first catalyst zone comprises about 10% to about 90% of the single substrate, and the second catalyst zone comprises about 90% to about 10% of the single substrate, based on the total length of the substrate.

8. The method of Claim 1, wherein at least one component of the first and second catalyst compositions differs by greater than or equal to about 10% between the two catalyst compositions.

9. An exhaust emission control device comprising a treatment element disposed within a shell and a retention element disposed therebetween, wherein the treatment element is made by the method of Claim 1.

10. A method of making an exhaust emission control device comprising:

applying a first catalyst composition along a first portion of a major axis of a single substrate;

applying a second catalyst composition along a second portion of the major axis of the single substrate;

calcining the substrate to form a treatment element comprising a first catalyst zone and a second catalyst zone, wherein the first catalyst zone and the second catalyst zone are different; and

disposing the treatment element within a shell and disposing a retention element therebetween.

11. The method of Claim 10, wherein the first catalyst zone comprises a noble metal component and an alkaline earth metal component, and wherein the second catalyst zone comprises a noble metal component and an alkali element component.

12. The method of Claim 11, wherein the first catalyst zone comprises a noble metal component loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkaline earth metal component loading of about 180 grams per cubic foot to about 2904 grams per cubic foot, based on the total volume of the substrate.

13. The method of Claim 11, wherein the first catalyst zone comprises less than or equal to about 10 grams per cubic foot of an alkali element based on the total volume of the substrate.

14. The method of Claim 11, wherein the second catalyst zone comprises a noble metal component loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkali element component loading of about 70 grams per cubic foot to about 1104 grams per cubic foot, based on the total volume of the substrate.

15. The method of Claim 11, wherein the second catalyst composition further comprises an alkaline earth metal component at a loading of 180 grams per cubic foot to about 2904 grams per cubic foot, based on the total volume of the substrate.

16. The method of Claim 11, wherein in the first catalyst composition is disposed in an exhaust stream upstream from the second catalyst composition.

17. The method of Claim 11, wherein the first catalyst zone comprises about 10% to about 90% of the single substrate, and the second catalyst zone comprises about 90% to about 10% of the single substrate, based on the total length of the substrate.

18. The method of Claim 10, wherein at least one component of the first and second catalyst compositions differs by greater than or equal to about 10% between the two catalyst compositions.

19. A treatment element for an exhaust emission control device, comprising a first catalyst zone and a second catalyst zone disposed on a single substrate, wherein the first catalyst zone is disposed along about 10% to about 90% of the total major axis length of the substrate and the second catalyst zone is disposed along about 10% to about 90% of the total major axis length of the substrate, and wherein the first catalyst zone and the second catalyst zone are different.

20. The treatment element of Claim 19, wherein the first catalyst zone comprises a noble metal component and an alkaline earth metal component, and wherein the second catalyst zone comprises a noble metal component and an alkali element component.

21. The treatment element of Claim 20, wherein the first catalyst zone comprises a noble metal component loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkaline earth metal component loading of about 180 grams per cubic foot to about 2904 grams per cubic foot, based on the total volume of the substrate.

22. The treatment element of Claim 20, wherein the first catalyst zone comprises less than or equal to about 10 grams per cubic foot of an alkali element based on the total volume of the substrate.

23. The treatment element of Claim 20, wherein the second catalyst zone comprises a noble metal loading of about 20 grams per cubic foot to about 150 grams per cubic foot, and an alkali element loading of about 70 grams per cubic foot to about 1104 grams per cubic foot, based on the total volume of the substrate.

24. The treatment element of Claim 19, wherein at least one component of the first and second catalyst compositions differs by greater than or equal to about 10% between the two catalyst compositions.